

R E M A R K S

This is in response to the Office Action that was mailed on July 29, 2003. Minor formal amendments are made to claims 30 and 31. No new matter has been introduced. Favorable action on the merits of claims 30-51 is respectfully solicited.

Although this application contained (only) claims 30-51, in discussing a requirement for restriction in the Office Action, the Examiner referred to claims 1 and 2. It is presumed that the Examiner intended to refer to claims 30 and 31, respectively, rather than to claims 1 and 2.

Restriction was required between (I.) claim 30, drawn to a method for the preparation of paper pulp, and (II.) claims 31-51, drawn to an apparatus for practicing the invention of Group (I.). Solely to be responsive to the Office Action, Applicant elects the invention of Group (II.), with traverse.

In the Office Action, three restrictive criteria are listed:

- Single general inventive concept in question, as claims 30 and 31-51 would allegedly not belong to a single invention.
- Differing proposed classifications for claims 30 and 31-51.
- Innovating features of claims 31-51 allegedly questionable, in particular due to alleged anticipation by patent n° DE 29 24 794.

These criteria will be discussed below:

Single general inventive concept.

Claims 31-51 simply define the apparatus to perform the process of claim 30. There is no function which would be performed with the apparatus defined by claim 31 and not foreseen by claim 30, and no function described by claim 30 not carried out with the apparatus described by claim 31. As such, claim 31 is totally linked to and is expressly dependent on claim 30.

Moreover, there is no link between the two sets of claims and a pulper, which allows the separation of the solid particles from water in a fibrous suspension. On one hand, the apparatus of the invention does not fulfill under any circumstance the functions of a pulper, inevitably located upstream of the described process, and whose main function is pulp defibering in order to generate a fibrous suspension. On the other hand, the essential function of the process described by claim 30 and implemented by the apparatus described by claim 31 is solid/solid selective separation, solid/liquid being actually a secondary function, certain solids being inevitably separated from fibers through the water.

Taking into account these factors, and also the comments hereinbelow, it is not understood how claims 30 and 31 could be seen as two independent and distinct inventions claimed in one application, and believe that requirements of 35 U.S.C. 121 are clearly fulfilled. Also, PCT rule 13.1, is clearly fulfilled, i.e., as per PCT rule 13.2 that there is a clear technical relationship between claims 30 and 31 involving one or more of the same or corresponding special technical features.

Classification of inventions.

Claim 31 should not be classified under sub-class 261 of class 162. This subclass includes disintegrating/refining/beating. No such function is carried out with the apparatus described in claim 31. Claim 30 should not be classified under subclass 28 of class 162. This subclass includes processes with plural or specified mechanical defibering steps, which is not the case at all for the process defined in claim 30. The purpose of the process is not at all to defiber (which means breaking hydrogen links between fibers) but mainly to make solids/solids and then solids/water separations.

Furthermore, the main purpose of both claims 1 and 2 is not to separate pulp fibers from water, but to separate pulp fibers from other selected solids (as inks, ash and other solids depending on the application), most of these solids being in fact only separated from water after they are separated from pulp fibers.

Relationship to patent n° DE 2924794.

The patent n°DE2924794 describes an apparatus intended to filter pulp with a sieve, and with the use of centrifugal force. However, functions performed with the described apparatus, as well as features to implement them are completely different from those of the process and the apparatus described by application n° US 09/980.687.

The main differences are:

a) *Use of centrifugal force.*

Centrifugal force is almost perpendicular to the drilled sieve in the apparatus defined by patent n° DE 2924794 whereas it is almost parallel to the drilled plate in the process and apparatus described by the present application.

This substantial difference leads centrifugal force to allow completely different functions depending on the apparatus: in this application, centrifugal force allows to create different sedimentation speeds depending on the type of solids particles, which, combined with the drilled plate, allow a very fine separation between solids (long fibers/short fibers, fibers/inks, fibers/ash, fibers/fines....) depending on the situation. In patent n° DE 2924794, centrifugal force is used for evacuating water and solids not retained by the perforations of the sieve, and there is no possible differentiation.

The specific use of centrifugal force herein allows numerous possible additional functions, depending on specific applications (always recycled fiber lines), and described by claims 32-51, which would not be the purpose of patent n° DE 2924794. Moreover, the process/apparatus provided by this invention allows a much finer solid/solid separation, as solids are not projected with high speed against the drilled plate, contrary to apparatus described by patent n° DE 2924794. In particular, it would probably be excluded with the apparatus described in patent DE 2924794 to efficiently separate from fibers solids of a size between 50 and 200 microns (for example particles of ink) because of the immediate creation of a fiber mat due to centrifugal force. Only small solids elements could go efficiently through this mat together with water.

*b) Solids stream.*

In the present invention, fibers go from the center of the apparatus towards its periphery, whereas for patent n° DE 2924794, fibers go from an extremity of the apparatus to the other end. This is a consequence of what was defined in a), and implies there cannot be differentiation in sedimentation speeds.

The other consequence is that dewatering in the apparatus described in patent DE 2924794 cannot exceed a certain value (with probably less than 10% consistency of pulp), which limits the centrifugal force to be applied to a much lower value than for the apparatus described herein.

*c) Pressurization.*

The apparatus of the present invention is necessarily pressurized, which also implies that it is totally filled with various fluids (pulp in the inlet, then filtrates, finishing with clarified water). The apparatus described by patent DE 2924794 is necessarily not pressurized and the body 1 is inevitably almost empty of non-gaseous fluids, with the exception of the bottom part. This feature is essential not only for the operation and functions to be carried out, but also in the structural/mechanical design of the apparatus.

*d) Rotating parts.*

All elements of the apparatus described herein are attached to a body rotating at high speed, whereas the apparatus described by patent n°DE

2924794 is mainly made of a fixed body and a rotating sieve. This essential difference also implies that both apparatus are not comparable.

*e) Functions to be carried out.*

In the most simple configuration, described by claims 30 and 31, the apparatus of this invention allows for more functions (including water clarification) and with finer results (solids/solids finer separation, allowing for deinking, washing, fiber fractionation) than does the apparatus described by patent n° DE 2924794, mainly limited to pulp dewatering and washing (separation of ash from fibers).

Incidentally, Patent DE 29 24 794 was cited in the International Search Report issued by the IPEA (European Patent Office) and was classified as "A" (Not considered as relevant).

**CONTRIBUTION OVER THE PRIOR ART.**

The current state of the art for recycled fiber stock preparation lines includes a lot of different steps and functions, as several categories of solids have to be separated from pulp (sand, wood, inks, glass, glue, plastics, sometimes ash). Most functions performed by the process and the apparatus described in the present application are currently and always carried out by separate machines, and connected through pumps, pipes, tanks, etc. The present invention makes a major contribution to recycling lines mainly through

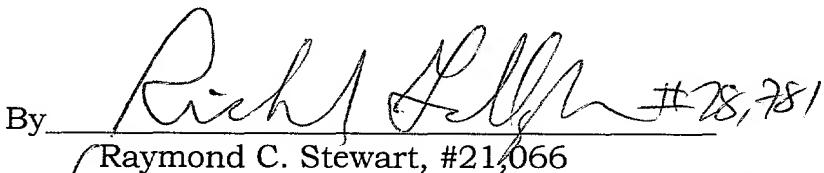
considerable savings in energy, chemicals, space and installation costs. Under no circumstance could patent n° DE 2924794 bring such savings.

Should there be any outstanding issues that need to be resolved in the present application, the Examiner is respectfully requested to contact Richard Gallagher (Reg. No. 28,781) at the (703) 205-8008.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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